

MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

|                                                                                                                           |             |                                   |                                                       |
|---------------------------------------------------------------------------------------------------------------------------|-------------|-----------------------------------|-------------------------------------------------------|
| Type Test<br><input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special |             | Test Date<br>9-19-84              |                                                       |
| Company<br>Southern Union Exploration                                                                                     |             | Connection                        |                                                       |
| Pool<br>Basin                                                                                                             |             | Formation<br>Lakota               |                                                       |
| Completion Date<br>9-7-84                                                                                                 |             | Total Depth<br>7444               | Plug Back TD<br>7405                                  |
| Elevation<br>6648                                                                                                         |             | Farm or Lease Name<br>Jicarilla K |                                                       |
| Csq. Size<br>4.500                                                                                                        | Wt.<br>10.5 | d<br>4.052                        | Set At<br>7444                                        |
| Perforations:<br>From 7297 To 7337                                                                                        |             | Well No.<br>K-12-E 125            |                                                       |
| Thq. Size<br>2.0625                                                                                                       | Wt.<br>3.25 | d<br>1.751                        | Set At<br>7354                                        |
| Perforations:<br>From To                                                                                                  |             | Unit Sec. Twp. Rys.<br>M 2 25 5   |                                                       |
| Type Well - Single - Bradenhead - G.G. or G.O. Multiple<br>Single-Gas                                                     |             | Packer Set At                     |                                                       |
| Producing Thru<br>TBG                                                                                                     |             | Reservoir Temp. °F<br>#           | Mean Annual Temp. °F                                  |
| Baro. Press. - P <sub>g</sub>                                                                                             |             | County<br>Rio Arriba              |                                                       |
| State<br>New Mexico                                                                                                       |             | Meter Run Taps                    |                                                       |
| L                                                                                                                         | H           | G <sub>g</sub>                    | % CO <sub>2</sub> % N <sub>2</sub> % H <sub>2</sub> S |

| FLOW DATA |                        |   |                 |                    |                         |             | TUBING DATA        |             | CASING DATA        |             | Duration<br>of<br>Flow |
|-----------|------------------------|---|-----------------|--------------------|-------------------------|-------------|--------------------|-------------|--------------------|-------------|------------------------|
| NO.       | Prover<br>Line<br>Size | X | Orifice<br>Size | Press.<br>p.s.i.g. | Diff.<br>h <sub>w</sub> | Temp.<br>°F | Press.<br>p.s.i.g. | Temp.<br>°F | Press.<br>p.s.i.g. | Temp.<br>°F |                        |
| SI        |                        |   | .750            |                    |                         |             | 1680               |             | 2010               |             | 9 days                 |
| 1.        |                        |   |                 |                    |                         |             | 250                | 76          | 760                |             |                        |
| 2.        |                        |   |                 |                    |                         |             |                    |             |                    |             |                        |
| 3.        |                        |   |                 |                    |                         |             |                    |             |                    |             |                        |
| 4         |                        |   |                 |                    |                         |             |                    |             |                    |             |                        |
| 5.        |                        |   |                 |                    |                         |             |                    |             |                    |             |                        |

RATE OF FLOW CALCULATIONS

| NO. | Coefficient (24 Hour) | $\sqrt{h_w P_m}$ | Pressure P <sub>m</sub> | Flow Temp. Factor F <sub>t</sub> | Gravity Factor F <sub>g</sub> | Super Compress. Factor, F <sub>pv</sub> | Rate of Flow Q, Mcfd |
|-----|-----------------------|------------------|-------------------------|----------------------------------|-------------------------------|-----------------------------------------|----------------------|
| 1   | 12.3650               |                  | 262                     | .9850                            | .9245                         | 1.028                                   | 3033                 |
| 2.  |                       |                  |                         |                                  |                               |                                         |                      |
| 3.  |                       |                  |                         |                                  |                               |                                         |                      |
| 4.  |                       |                  |                         |                                  |                               |                                         |                      |
| 5.  |                       |                  |                         |                                  |                               |                                         |                      |

| NO. | P <sub>t</sub> | Temp. °R | T <sub>f</sub> | Z | Gas Liquid Hydrocarbon Ratio | A.P.I. Gravity of Liquid Hydrocarbons | Specific Gravity Separator Gas | Specific Gravity Flowing Fluid | Critical Pressure | Critical Temperature |
|-----|----------------|----------|----------------|---|------------------------------|---------------------------------------|--------------------------------|--------------------------------|-------------------|----------------------|
| 1.  |                |          |                |   |                              |                                       | .702 Est.                      | X X X X X X X X                |                   |                      |
| 2.  |                |          |                |   |                              |                                       |                                | X X X X X                      |                   |                      |
| 3.  |                |          |                |   |                              |                                       |                                |                                |                   |                      |
| 4.  |                |          |                |   |                              |                                       |                                |                                | P.S.I.A.          | P.S.I.A.             |
| 5.  |                |          |                |   |                              |                                       |                                |                                | R                 | R                    |

|            |         |                 |         |                 |
|------------|---------|-----------------|---------|-----------------|
| $P_c$ 2022 |         | $P_c^2$ 4088484 |         |                 |
| NO         | $P_t^2$ | $P_w$           | $P_w^2$ | $P_c^2 - P_w^2$ |
| 1          |         | 772             | 595984  | 3492500         |
| 2          |         |                 |         |                 |
| 3          |         |                 |         |                 |
| 4          |         |                 |         |                 |
| 5          |         |                 |         |                 |

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{1.1706}{}$$
$$AOF = Q \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{3413}{}$$

$$(2) \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{1.1254}{}$$

Absolute Open Flow 3413 Mcfd @ 15.025 Angle of Slope 0 Slope, n .75

Remarks: Kicked off with heavy slug of oil, then a heavy slug of water.  
Then well blew light to medium mist of water.

Approved By Division

Conducted By: / /

Calculated By: / /

Checked By: